is that the rates that we currently pay to local exchange carriers are in some cases as much as 40 times the default rates specified by the FCC. In other words, we are paying substantially higher services than we believe are justified by cost, and the effect of that is to allow our primary potential competitor, the wired local exchange carrier, to provide services if they choose basically on our backs.

We think that there are a couple of changes that are necessary. First of all, it's important to promote competition. If by making the support mechanisms technology-neutral and carrier-neutral we think it's possible to incent competition among both wired and wireless technologies and wired and wireless carriers.

Second, if we allow the market or the users to pick the best technology, as several of the other speakers today have advocated, we think that the benefits can be delivered directly to individual consumers, individual schools, individual hospitals, as well as individual businesses. We have some specific suggestions in our written proposal concerning the mechanisms, but fundamentally we suggest that we eliminate the subsidies by eliminating

the current payments that are made by wireless exchange carriers to wired exchange carriers and implement what we would suggest is a voucher system. We know that's politically unpopular and that it may be difficult to administer, but at a minimum we would suggest that we allow all carriers to pay into -- that pay into the universal service funds to also receive benefits from the universal service funds.

Finally, in conclusion, we think that schools, hospitals, as well as consumers and businesses can receive substantial benefits if we revolutionize the way that communications subsidies are currently structured and allow us to simply provide services to consumers, schools and hospitals based on the most economic and efficient technologies available.

JUDGE FFITCH: Thank you. Any questions?

CHAIRMAN NELSON: Mr. Stanton, actually part of the universal service provisions of the new act are intended to hedge our bets about the future of competition. They assume that rural areas still may not be served. They assume that low wealth populations still may not be served and they assume that these public institutions still may not be served. I think your points about those that pay into

the fund should be eligible to receive from the fund are well taken, but do you think there's a way that we could manage this fund so that it wouldn't grow into a huge new entitlement program? Is there a way we can put a sunset date on it? Is there a way that we can structure it so that we don't hedge our bets against the future competition by actually creating a fund that might perpetuate people's sense of entitlement to being a monopoly provider?

MR. STANTON: I think it is possible. Let me first address one fundamental economics of wireless which I think contribute to our ability to better deliver service. Wired technology basically has costs that go up proportionally, in some cases exponentially, the further you get from concentrations of population. Wireless services have some of those benefits. Clearly the more densely populated areas are more economic to serve, but the difference for us is that it's very important to cover highway corridors, and what we found is that in rural areas such as the example I used in Nevada, because we are already building the highway corridors to cover people that are going from one large city to another, it's much more economic for us to provide service in the small communities that are in most cases located

within five or ten miles of highways.

So we actually have an economic benefit that's inherent in our technology that we think is beneficial, but with respect to sunsetting I think that the key is that to the extent that the system eventually relies on competition as the primary mechanism to deliver service that there is going to be an inherent, I think, winnowing away of governmental subsidies as the carriers that are most effective in providing the services essentially take more and more direct responsibility, and if the payment mechanism is essentially on a per consumer or per school or per individual basis, I think it's possible to create a mechanism where, as the costs go down, basically, we can get down to the floor level of the subsidies.

CHAIRMAN NELSON: Good answer. One follow-up. In Antelope, Reese River, Nevada and in the hospital example you mentioned, is your technology capable of providing data services to those users as well as voice?

MR. JOHNSON: In both cases we currently utilize the cellular technologies, and the industry is currently working on mechanisms to improve the data service. Right now it is possible to provide relatively low speed data services using analog

technology and the industry is in the process of finalizing standards which will allow us to provide higher speed data. In the case in Hawaii where we are competing using our PCS technology it's actually possible to provide relatively high speed data, certainly not the kind of computer-to-computer usage, but certainly anything that would satisfy most individual users of a service and probably most applications that would be used in a hospital or school other than in full scale dimension video.

CHAIRMAN NELSON: Thank you.

JUDGE FFITCH: Other questions? Thank you very much, Mr. Stanton.

MR. STANTON: Thanks for the opportunity.

JUDGE FFITCH: If you could provide the written version of your comments today to us by mail, that would be --

MR. STANTON: I will.

JUDGE FFITCH: At this time we will take a break and after we return we'll look at the sign-up list of other people who would like to speak and call you up in order. We'll take about five minutes and return at about ten after three.

(Recess.)

JUDGE FFITCH: We're going to reconvene

now. We'll begin now with speakers who signed up when they came in, and the first person on the list is Ralph Sims of Northwest Nexus. If you could when you come up please just give us a brief introduction of yourself and go ahead.

MR. SIMS: Thank you. My name is Ralph Sims. I'm with Northwest Nexus and we are an Internet service provider in the Pacific Northwest. A little bit of background is that when we started as an ISP, Internet service provider, we were one of -- well, we were the first in the Puget Sound region and the Pacific Northwest to provide Internet services to individuals. People normally had access at that time through businesses perhaps or through universities and like, mechanisms but we were the first that would be able to say, Ms. Nelson, you can get an Internet account with us and be directly connected to the Internet. And, as I say, we're one of the first twelve in the world that would do that and the first in the Puget Sound region. Since then, I think we've now been listed as one of the top 100 growth business companies in the Pacific Northwest with about 7200 percent increase in revenues over the last five years.

The mix of our users in the venue that we're in today would be in state, local government,

librarians both in public and private sectors, schools, public and private, 501C3s and so forth, and to these organizations we do offer discount services for Internet access. This may be in terms of 25 percent cash discounts or free access to services, we provide the software and so forth if needed. Some successes that we have noted from our users would be the Arbor Heights school and their web site which was featured in one of the pages of Bill Gates's Road Ahead book, as well as the bond issue for the new Redmond public library who utilize our services. We contributed a site location for the web page. They get that information out of (inaudible) issue and so forth. And these different users utilize our service a number of ways from electronic mail.

Talk a little bit about the schools here. Electronic mail, worldwide web access, some of the colleges would be private institutions, Bastier, St. Martins, Bellevue Community College, Yelm School District and others. When we started we were kind of limited by the technology that we had available to us, and the service we provided were basically text-based. They were raw information, electronic mail, news, those types of things. Since then we've seen the worldwide web, video conferencing, remote control of

mechanical systems across the Internet being used. We were one of the first people, companies, in the world that would allow our users to put worldwide web pages up on the net and since then it's become -- well, we did it before it was fashionable. I guess that would be the way to say it.

We have some frustrations. One of these frustrations is based in the telco industry where we have difficulty in getting consistent reliable service through the telcos, predictable services. We have, as a matter of fact, a couple of complaints filed with the WUTC now against U S WEST and I think one with GTE. Some of the frustrations we have are the inability of those telcos to provide the level of service to our users that we feel that those users demand. Some of it has to do with installation of second lines. Some of it has to do with installation of ISDN. Some of it has to do with technology where U S WEST was pushing out the install dates up to six months on front relay. We think this is unacceptable.

Some of the areas of concern also from the telco industry that we see is we have limited means of competition with companies such as AT&T, MCI and Sprint and so forth, because they were able to connect directly to the local telco, for instance, with U S

WEST and colocate directly with them. There's a limitation in U S WEST's switching, the software that they use in their switches, whereby call forwarding is only limited to 99 paths along the call forward path, and some of the major players such as U S WEST don't have to deal with these types of things. So we think there's a competitive issue there, and I think that the commissions might want to go ahead and consider some of these things as they go and develop policy. We are also unable to colocate specifically with telcos because we are not a telecommunications industry, although where in the city of Tacoma thought at one time that we were and the recent revocation of the taxation of ISPs as being a telecom provider may -- I will address later. We have some other issues here as well.

We also have some frustrations within our own industry because we don't have any common speaker or common organization. We're rather fragmented there and, as such, think there's a misunderstanding of what we do and even amongst others in how we relate to the telcos or how we relate to the WUTC or other utility commissions. Are we a telecommunications provider? Are we subject to those same rules and regulations? Are we common carriers? Those things I think we need

to address, and we need to work closely with these commissions in order to help them understand, help ourselves understand exactly where we are.

We're in a fledgling industry and it changes almost daily, and I think we need some help from the more established organizations on helping us define where we might participate in the regulatory processes. This lack of definitions is definitely prominent. Also, as an industry do we generate an abnormal demand upon the infrastructure of the telcos by placing, for instance, a lot of users in one particular area on Internet services that impact the -- that, in fact, the telco in delivering those types of services -- for instance, an ISDN, there's some switching issues that the telcos have that will not allow them to actually meet demands that we place on their switches. We've actually taken down a couple of central offices in the Puget Sound region as our users have exceeded the capacity of the telco to provide the infrastructure.

Also we have some frustrations in technology. We've seen over history, as short as our history is, and in our case approximately almost four and a half years, that the demand for band width multiplies approximately ten times every two years,

and we've tried to remain flexible enough as we can to provide the technology a couple of years ahead of time and try to figure out what people are going to be doing for a couple of years before they wind up doing it. Some of these things that we wind up with are, again, in video conferencing and high speed two-way (inaudible) band communications. ISDN is addressing this, although we find we have limitations when we deliver those services.

Another one of our frustrations is regulatory, the taxation issue that was currently settled with the city of Tacoma. Where might this go in the future, whether it would be to the state in providing, I think it was suggested, of one percent tax on providers of services? Are other ISPs going to fall within this definition as well? I think we would like to address that. And we have also -- somewhat regulatory -- we have not been able to receive any benefit from tax relief as a technology industry. I don't know if we are even recognized as a technology-based industry, but I believe that the state of Washington has not seen it fit to be able to lump us in with other companies that would receive some type of a tax break because we are -- at least we believe we are on the leading edge of this technology. Some

types of tax relief would allow us at least to develop some of the technologies that people might be using further down the road. Kind of reminds me of the old days of citizen band radio in which there was a little chip that was called a phase lock tube vacillator that went inside of these CBs that helped them -- they made them small and made them fairly efficient. While the chip had been around for a while, the citizen's band industry itself brought the capabilities of that chip more into the industry, and right now it's an inherent part of a lot of the technology that we use including cellular phones, microwaves and et cetera.

So what we would like to be able to do in order to help us identify what we are is perhaps work closely with organizations such as the WUTC, the Federal Communications Commission and others in sharing ideas with interested parties and perhaps part of a work group or in a co-committee. Some things that we also need to do would be educate our users on what it is you folks are trying to accomplish so that they can help support some of your efforts, and some of the information that I've taken from the table today might help on that. I would also be open to any questions that you might have.

JUDGE FFITCH: Any questions?

CHAIRMAN NELSON: Thank you, Mr. Sims. A lot of this testimony would have been usefully given to the governor's telecommunications task force.

MR. SIMS: Unfortunately we were never either invited to attend or knew about it so that's why we're here today because I heard about this.

CHAIRMAN NELSON: I would welcome you to visit our web site and if you can get some of your other colleagues that you know about in the industry, we've had a few individual visits, but set up an appointment. You are organized somehow at the national level because you've managed to avoid paying access charges for many years now.

MR SIMS: We've been quite lucky, and I don't think that's been through -- I don't think it's been an organized effort at all. I think it's because maybe until a year or so ago nobody really knew what we did, and now that there seems to be a lot of money attached to the Internet, more legislative organizations are waking up and realizing the fact that we are there although we have been there for quite a while. I would also mention that the fax, telephone fax industry is about a 40 billion dollar a year industry and I think there's others that the government might look at for some of those revenue

reliefs, but be that as it may I would like to offer whatever expertise we have.

COMMISSIONER GILLIS: I have a brief question. This is a little bit off topic from your comment, but I'm interested in your perspective from your experience. You indicated that some of your clients are schools that you serve. Could you briefly profile the services that those schools are requesting from you, I guess the type of applications, the number of lines. Are they -- how many computers they set up in labs and individual classrooms. What are they looking for?

MR. SIMS: Sir, most of these schools are using us over dial-up modem lines, and a lot of the accesses are, although they are identified and paid for by the school and usually initiated by a teacher that has seen the benefit of bringing some type of Internet communications to the classroom, and the Yelm School District dials our local of facility in Olympia and has access in that manner but it is mostly a one computer to the Internet type of situation. St. Martins has a dedicated line, a direct connection to the Internet through us by which they provide Internet services on to their LAN. Bastier and others utilize a predominantly dial-up connection as a means of

getting introduced or at least having somebody in their organization introduce the Internet to their peers and seeing how it's going to work. As soon as we have a facility in Bremerton I will be providing Internet access to the school that my children go to. This is something that I want to do. It will be done at no cost. Have direct access to the Internet. Probably be ISDN.

COMMISSIONER GILLIS: The experience of the schools certainly at this point isn't broad band access but it's just dial-up over regular phone lines?

MR. SIMS: Predominantly dial-up with the exception of some of the private schools that have some level of (inaudible) activity. Again, I would mention St. Martins College and I believe Bellevue Community College as well.

COMMISSIONER GILLIS: Thank you.

JUDGE FFITCH: Bill Mitchell.

MR. MITCHELL: Like to thank you for the opportunity to speak with you today. My name is Bill Mitchell. I'm from the Quileute, Q U I L E U T E tribal school. I'm a telecommunications consultant there.

JUDGE FFITCH: Could I ask you to speak a little more closer to the mike?

FROM THE AUDIENCE: Having a hard time.

MR. MITCHELL: Would you like me to start over?

JUDGE FFITCH: No, that's okay.

MR. MITCHELL: And formerly I've been down in the University of California San Diego for the past ten years doing telecommunications and computer consulting down there. I am here today with Dr. Lew McGill, who is the superintendent and principal at the Quileute Tribal School, and we have come here to share with you some of our experiences with developing telecommunications solutions for tribal nations. The Quileute Tribal School is in La Push, Washington. It's the most westerly extension of the continental United States. The school's population is approximately 81 students. A total population if you include Head Start would be 150 students. A full 33 percent of them are physically or mentally challenged in some way.

The Quileute Tribal School receives federal funding from the Department of Education and the Bureau of Indian affairs, and so it was capable or eligible to receive telecommunications services from the Federal Telecommunications System 2000. The federal telecommunications system 2000, as you know,

is a 10 billion dollar contract that was given to Sprint and AT&T in 1988. It serves 1.5 million federal workers, 145 federal agencies and is a worldwide network and that contract is due to expire in eight months. Because of the eligibility of the Quileute Tribal School to receive these services that oftentimes give you a connection rate that does not diffentiate between voice and data because it's all digital -- it's a completely digital network; it does not differentiate between voice and data -- you can get telecommunications costs for under five cents a minute. In addition, because of the availability of federal entities to be able to receive these services, the costs are far below what anyone can provide in the private sector.

The reason that I am mentioning this to you today is because various contacts that school administration at the Quileute Tribal School made with the federal government, the General Services Administration invited myself and another individual from the Quileute Tribal School to attend in Orlando, Florida the network FTS 2000 user's forum. At that forum they stated the outline of the new federal contract. The new federal contract, which will initiate in 1998, will include state, local and tribal

entities. All of those entities, federal, state, local and tribal entities, will now be able to reach and receive full FTS 2000 features and services. Of course the local and state indicates that all schools and libraries will now be able to receive full FTS 2000 services, and bring in connectivity at the highest level of technology.

All of the speakers that I have heard today, their technological and architectural designs are out of the '80s and '70s. The use of unintelligent transport services like T1 is a waste of money. If you want to do something that would dramatically affect the future of the children of this country you would do everything possible to move to ISDN and frame relay. Trying to design a network to supply students connectivity services based on T1 is basically focusing on just the data aspect. Today's digital switch -- that would be a central office -- does not see a difference between data and voice. It's just the telecommunications provider's advantage to make the public believe that there is a difference so they can charge differently.

We believe, I believe, that the Quileute Tribal School basically has a state-of-the-art local area network. It has an administration side and it

has an instruction side and they are separated by a fire wall that provides privacy for secure administrative data. All students and all administrators have local electronic mail. Students in the tribal schools oftentimes have fetal alcohol syndrome problem and they do not interface well with the people that they need to, the teachers. Interestingly enough, it is a problem, the teachers are a problem in education, but of course we know that they are a problem in education outside of tribal schools, too. And so as a consequence we have found the computer and the Internet a solution because students can set their own curve of learning. When a teacher has 30 students or 20 students to work with, she has to teach at the median level and oftentimes that cheats the student at the top, and so what we are doing here and has been going on here today is we have been stressing competition. I would say that you're stressing competition at the sacrifice of your own children's future. Can you afford to do anything other than to provide free Internet access to all public education? I would like to ask what is the purpose of education. The purpose of education is to produce a productive citizen. What is the purpose of a public library? A public library helps a community

maintain democracy by performing the distribution of free information. Can you put a cost on these two things?

I would like to recommend that you look into a new type of analysis. I call it switched base analysis where you look at the capacity of the local community's central office and ask what can it do, because that central office has wires into every home, office and business. A lot of people do not know that Northern Telecom provides all the central office switches for PTI. And on January 1st of this next year all rural switches, provided that would be the DMS 10s, will have feature capacities to support ISDN delivery. That has been a stumbling block for a while.

We all heard a moment ago about the subscriber loop. The most inefficient part of the subscriber loop is the analog portion that runs into the home. By supplying everybody with digital Centrex -- by the way, I should mention that the 256 telephones that are used in state offices in the north Olympic Peninsula will be moving to Digitrex service all out of one central office in Forks, Washington. The entire north Olympic Peninsula receives all of its telecommunications services out of one central office.

There are 10,000 people in the north Olympic Peninsula and three major school districts. By connecting them to Digitrex you can do digital cross-connects that will allow them to be an integrated community network at the switch location. They don't have to do it in an individual school infrastructure. What that means is there is no local telecommunications and networking infrastructure. Every time you want a computer you just get a line, a switch, and over that line, because it's got ISDN capability, it's connected to an integrated community network or a telephone, because the switch doesn't notice a difference between the two.

I would like to also mention some trends. When we were in Orlando, Florida, AT&T announced the near completion of 50 SONET rings across the United States, synchronous optical network, that were going to be interconnected with asynchronous transfer mode switches, and this was going to be the connectivity pattern of the future. They implemented for the Department of Defense their own SONET ring. On March 31st the entire Department of Defense transferred over all services to the FTS 2000 network. Now, the reason I'm mentioning this is because the memorandum of understanding that basically left us with the

telecommunications system that we have today where we have local exchange carriers which everyone calls LECs -- and for some reason it sounds to me like ick, but the other one is the interexchange carriers -- I see personally a breakdown of that system due to the Federal Telecommunications Act of 1996.

Economic redevelopment. Most people think that development, economic development is the key. In the state of Washington, especially in the north Olympic Peninsula, there have been two catastrophes which have occurred at the same time. The loss of lumber, timbering, and the loss of fishing. These were two industries that basically supported public education and libraries. Both public education and libraries have been taken off of this timber money and this fishing money and put on property taxes. You can imagine the problem that has occurred because of that. How do you fuel economic redevelopment. Not economic development. Redevelopment. The best fuel for economic redevelopment is band width. Free if possible, as low a cost as possible. No one has mentioned the SONET ring. No one has mentioned asynchronous transfer mode. But everyone else in Washington knows all about it.

There is a very strange creature that

operates in Washington state. It's called Washington state politics. If you maintain the status quo here you will find it very difficult to initiate economic redevelopment. Band width, inexpensive, free to the students, will give your children a future. The maintenance of democracy requires that everybody be informed. How can you put a cost on it at all to the library? We see the library as the key forever. Since you were a little child you went to the library for public service of information, free of charge. Now it's an extended service. If you want to go to the library you should be able to see web browsers at every library. It should be a guarantee to the citizen. High band width, very fast. It's also the best spot to re-educate people. The schools cannot afford it any more. In Forks, Washington the high school doesn't even have shop facilities to train their citizen how to work in the biggest aircraft factory in the world. They don't have metal stops, they don't have wood shops, they don't have electronic shops and they call that quality education.

JUDGE FFITCH: Mr. Mitchell, we do have a number of other speakers that we would like to fit in. Appreciate your comment but if you could finish up.

MR. MITCHELL: I'm done. I'm here for you.

Are there any questions at this point?

CHAIRMAN NELSON: Mr. Mitchell, when you say free, do I understand you to mean free to the users of the library or free to the library as well.

MR. MITCHELL: The library has always provided free service of information to the citizens. How it's funded is typically by property tax. If there is a source of money in the local area like lumber, then they come in with additional money, but the thing of it is the library is a key to carry on.

CHAIRMAN NELSON: We were in Spokane last weekend. We heard actually a representative of the McCaw tribe talk and he indicated, as you just did, that there's a lot of facilities available, paradoxically enough, in the Olympic Peninsula but the problem is coordinating people's access to the facilities.

MR. MITCHELL: And that's what the library could do. That could become its new function.

CHAIRMAN NELSON: But the trouble is what we're dealing with here is not even the question of taxes, it's a question of using ratepayer money to fund, and using ratepayer money can become a very regressive tax policy. We found from the gross numbers in this docket that we could be talking

anywhere from 75 cents a month rate increase to more than $12 a month.

MR. MITCHELL: But you don't know what the actual figures are because I have not heard anybody in FTS 2000 speak at all. When I told them about this meeting, the commissioner's office of FTS 2000 had no idea that the states were working on independent pricing policies.

CHAIRMAN NELSON: And actually we didn't know -- your testimony can be very useful about bringing the FTS contract to our attention. That's very interesting information.

MR. MITCHELL: I want to thank you for your time.

CHAIRMAN NELSON: Thank you.

JUDGE FFITCH: Ed Jacobs, Tacoma Public Schools.

MR. JACOBS: Hi. I'm Ed Jacobs. I am an independent contractor working for a telecommunications firm doing consulting. I have a master in telecommunications management and I am a registered communications distribution designer. Earlier today there was a question about how much schools were involved in higher speed communications, and so while I was waiting, I put a little list